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मानक

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IS 7975-1 (1976): Driving parts for hand-operated square drive socket wrenches, Part 1: Technical supply conditions [PGD 5: Assembly Hand Tools]



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“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

SPECIFICATION FOR DRIVING PARTS FOR HAND-OPERATED SQUARE DRIVE SOCKET WRENCHES

PART I TECHNICAL SUPPLY CONDITIONS

1. Scope — Covers technical supply conditions for the following driving parts for hand-operated square drive socket wrenches:

- a) Tee handle, square drive;
- b) Speed brace;
- c) Ratchet handle;
- d) Ratchet handle, reversible;
- e) Handle, spin type, male square;
- f) Nut spinner, flex head; and
- g) Offset handle, square drive.

2. Material — Suitable steels meeting the requirements laid down in 4.

Examples:

40Cr1, 50Cr1, 50Cr1V₂₃ of IS : 1570-1961 ' Schedules for wrought steels for general engineering purposes '.

3. Workmanship and Finish

3.1 Driving parts shall be free of burrs, scales and cracks.

3.2 The driving parts shall be given any suitable anticorrosive coating. The type of anticorrosive coating shall depend upon the manufacturer unless specifically indicated by the user.

3.2.1 The following plating thicknesses in case of nickel-chromium and cadmium plating are considered suitable:

Nickel-chromium plating — S Ni10b Cr r [see IS : 1068-1968 Specification for electroplated coatings of nickel and chromium on iron and steel (*first revision*)]

Cadmium plating — Cd8 [see IS : 1572-1968 Specification for electroplated coatings of cadmium on iron and steel (*first revision*)]

4. Torque Test

4.1 Method of Test — The tool shall be placed in a female test square and the corresponding test torque as laid down in IS : 7975 (Part II)-1976 ' Specification for driving parts for hand-operated square drive socket wrenches: Part II Dimensions ' shall be applied. The tool shall not be given any jerk or struck while testing. The load shall be applied gradually until the required test torque is reached. The torque shall be calculated as the product of the magnitude of the load and the distance measured between the point of application of the load and the axis of the female test square.

4.1.1 The nominal width across flats dimension of the female test square shall be equal to the nominal dimension with a tolerance of H8. The female test square shall be hardened to a value of 595 HV Min (\approx 55 HRC Min).

4.1.2 A device in which the female test square can be rotated at a certain torque, determined with an accuracy of ± 2.5 percent may also be used for this test.

4.1.3 On the completion of the test, the tool shall not show any permanent deformation or other damage which may influence its usability.

Adopted 23 February 1976

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IS : 7975 (Part I) - 1976

4.2 Application of Test Torque

4.2.1 Tee handle, square drive — The handle shall be drawn out completely to one end and the test torque shall be applied to the end farthest from the test square.

4.2.2 Speed brace — The test torque shall be applied in the middle of the part on which the operator's hand normally rests.

4.2.3 Ratchet handle and ratchet handle, reversible — The test torque shall be applied as near to the end of the handle as possible.

4.2.4 Handle, spin type, male square — An appropriate appliance shall be used to allow the test torque to be applied to the handle without clamping the handle on the rod, which may alter the test result.

4.2.5 Nut spinner, flex head — The test torque shall be applied as near as possible to the end of the handle, which is placed at right angles to the axis of the square.

4.2.6 Offset handle, square drive — The test torque applied shall be as near to the end of the handle as possible.

5. Preservation and Packing — The driving parts which are not given any protective treatment against rust, such as plating, shall be covered with grease or mineral jelly for rust-proofing. Each driving part may be wrapped in nonabsorbent paper and packed in carton.

5.1 The driving parts of different sizes may be packed to form a set. The sizes and number of driving parts to comprise such a set shall depend on the job for which it is required and shall be subject to agreement between the manufacturer and the purchaser.

6. Marking — The driving parts for hand-operated square drive socket wrenches shall be marked with nominal dimension, manufacturer's name, initials and/or recognized trade-mark.

6.1 ISI Certification Marking — Details available with the Indian Standards Institution.

EXPLANATORY NOTE

This standard is in conformity with ISO 3315-1975 'Assembly tools for screws and nuts — Driving parts for hand operated square drive socket wrenches — Torque testing' issued by the International Organization for Standardization (ISO). Assistance has also been derived from DIN 3122 : 1968 'Antriebssteile für handbetätigte steckschlüsseinsätze mit Innenvierkanttrieb (Driving parts for hand operated square drive socket wrenches)' issued by Deutsches Institut für Normung (DIN).